

### **LISTING OF THE CLAIMS**

1. (Currently amended) A system for transcoding compressed video signals, including a plurality of pictures, comprising:

a decoder to completely or partially decode an input compressed video signal;

a look-ahead estimator to gather information from said input compressed video signal prior to input to said decoder and from said decoder to estimate current signal characteristics of a current picture and future signal characteristics of a one or more future incoming picture pictures; and

an encoder to compress the reconstructed video signal according to a coding scheme derived from said current and future signal characteristics from said look-ahead estimator.

2. (Canceled)

3. (Previously amended) The transcoding system according to claim 1, wherein said look-ahead estimator derives a complexity of said current picture being transcoded.

4. (Previously amended) The transcoding system according to claim 1, wherein said look-ahead estimator estimates a complexity of each portion of said current picture.

5. (Previously amended) The transcoding system according to claim 4, wherein said portion is a slice of said current picture.

6. (Previously amended) The transcoding system according to claim 4, wherein said portion is a macroblock of said current picture.

7. (Previously amended) A transcoding system according to claim 3, wherein said picture complexity is estimated by a function of the total bits and the average quantization step size used to code the picture in the first coding scheme.

8. (Previously amended) A transcoding system according to claim 3, wherein said picture complexity is estimated by a function of the total bits and average quantization step size used to code the portion of the picture in the first coding scheme.

9. (Currently amended) A method for video transcoding, comprising:

decoding, at least partially, a compressed video signal to produce an at least partially reconstructed video signal, said compressed video signal being a data stream coded by a first coding scheme;

determining a current picture complexity for a portion of a current picture in said at least partially reconstructed video signal;

looking ahead to estimate ~~a future picture complexity for a portion of a future picture~~ complexities of one of more future pictures or portions thereof, said future pictures in said at least partially reconstructed video compressed video signal prior to input to said decoder ;

selecting a second coding scheme based on said current picture complexity and said future picture ~~complexity~~ complexities; and

encoding said current picture using said second coding scheme and said current picture complexity.

10. (Previously added) The method according to claim 9, further comprising:

determining current signal characteristics for said current picture; and

using said current signal characteristics in selecting said second coding scheme.

11. (Previously added) The method according to claim 10, further comprising using said current signal characteristics in encoding said current picture.

12. (Canceled)

13. (Previously amended) The method according to claim 9, further comprising:  
determining a future picture complexity for a portion of a future picture in said at least partially reconstructed video signal; and  
using said future picture complexity in selecting said second coding scheme;  
using said future picture complexity in encoding said current picture.

14. (Previously amended) The method according to claim 9, further comprising:  
determining a future picture complexity for a portion of a future picture in said at least partially reconstructed video signal; and  
using said future picture complexity in selecting said second coding scheme;  
determining future signal characteristics for said future picture; and  
using said future signal characteristics in selecting said second coding scheme.

15. (Previously amended) The method according to claim 14, further comprising using said future signal characteristics in encoding said current picture.

16. (Previously amended) The method according to claim 9, wherein said portion of said future picture is a slice.

17. (Previously amended) The method according to claim 9, wherein said portion of said future picture is a macroblock.

18. (Previously added) The method according to claim 17, further comprising determining a macroblock complexity for said macroblock; and  
using said macroblock complexity in selecting said second coding scheme.

19. (Previously added) The method according to claim 18, further comprising using said macroblock complexity in encoding said current picture.

20. (Previously added) The method according to claim 9, wherein said current picture complexity is determined by a function of total bits and an average quantization step size used to code said data stream.

21. (Previously amended) The method according to claim 9, further comprising:  
determining a future picture complexity for a portion of a future picture in said at least partially reconstructed video signal; and  
using said future picture complexity in selecting said second coding scheme;  
wherein said future picture complexity is determined by a function of total bits and an average quantization step size used to code said data stream.

22. (Previously added) The method according to claim 18, wherein said macroblock complexity is determined by a function of total bits and an average quantization step size used to code said data stream.

23. (Previously added) The method according to claim 9, wherein said current picture complexity is determined by a function of total bits and an average quantization step size used to code said portion.

24. (Previously amended) The method according to claim 9, further comprising:  
determining a future picture complexity for a portion of a future picture in said at least partially reconstructed video signal; and  
using said future picture complexity in selecting said second coding scheme;  
wherein said future picture complexity is determined by a function of total bits and an average quantization step size used to code said portion.

25. (Previously added) The method according to claim 18, wherein said macroblock complexity is determined by a function of total bits and an average quantization step size used to code said macroblock.